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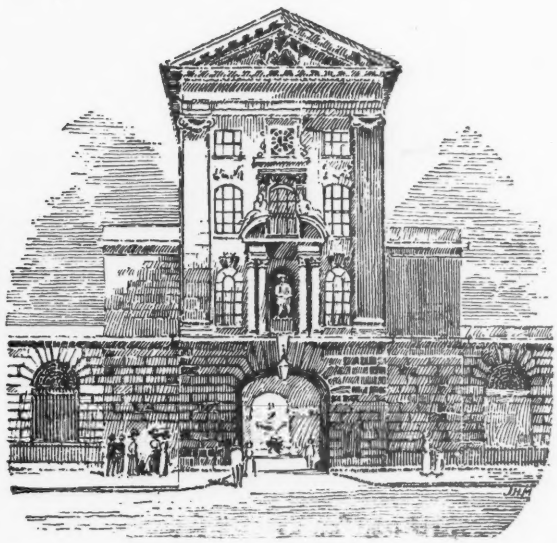

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"Æquam memento rebus in arduis
Servare mentem."
—*Horace*, Book ii, Ode iii.

VOL. XXXVI.—No. 1.] OCTOBER 1ST, 1928. PRICE NINEPENCE.

CALENDAR.

Tues., Oct. 2.—Sir Thomas Horder and Sir C. Gordon-Watson on duty.
Wed., ,, 3.—Rugby Match *v.* Bristol. Away.
Fri., ,, 5.—Dr. Langdon Brown and Mr. Harold Wilson on duty.
Sat., ,, 6.—Rugby Match *v.* Old Millhillians. Away.
Mon., ,, 8.—Special Subject: Clinical Lecture by Mr. Elmslie.
Tues., ,, 9.—Prof. Fraser and Prof. Gask on duty.
Wed., ,, 10.—Surgery: Clinical Lecture by Sir Holburt Waring.
Fri., ,, 12.—Medicine: Clinical Lecture by Dr. Langdon Brown. Dr. Morley Fletcher and Sir Holburt Waring on duty.
Sat., ,, 13.—Rugby Match *v.* Richmond. Home.
Association Match *v.* Cuaco (A.F.A. Cup). Home.
Mon., ,, 15.—Special Subject: Clinical Lecture by Mr. Rose.
Tues., ,, 16.—Sir Percival Hartley and Mr. L. B. Rawling on duty.
Wed., ,, 17.—Surgery: Clinical Lecture by Sir Holburt Waring.
Fri., ,, 19.—Medicine: Clinical Lecture by Dr. Morley Fletcher. Sir Thomas Horder and Sir C. Gordon-Watson on duty.
Sat., ,, 20.—Rugby Match *v.* Plymouth Albion. Away.
Association Match *v.* Downing College, Cambridge. Away.
Mon., ,, 22.—Special Subject: Clinical Lecture by Mr. Just.
Last day for receiving matter for the November issue of the Journal.
Tues., ,, 23.—Dr. Langdon Brown and Mr. Harold Wilson on duty.
Wed., ,, 24.—Surgery: Clinical Lecture by Sir C. Gordon-Watson.
Rugby Match *v.* Cambridge University. Away.
Fri., ,, 26.—Medicine: Clinical Lecture by Sir Thomas Horder. Prof. Fraser and Prof. Gask on duty.
Sat., ,, 27.—Rugby Match *v.* O.S. (Chatham). Away.
Mon., ,, 29.—Special Subject: Clinical Lecture by Mr. Scott.
Tues., ,, 30.—Dr. Morley Fletcher and Sir Holburt Waring on duty.
Wed., ,, 31.—Surgery: Clinical Lecture by Sir C. Gordon-Watson.

EDITORIAL.

HO! every one that thirsteth, imbibe with me. We are to drain our autumnal bumper to those novitiates who, theoretically timid, in practice most brazen, approach to lay their first offering at the feet of Rahere. Their particular offerings will be very different in kind, for they will ascend philogenetically from a specially active colony of amœbæ, through a well-put-up nerve-muscle preparation, past a beautifully dissected axilla, to a fomentation hotly applied and an apex-beat located somewhere in the correct zone. These offerings will not be accompanied by dim ritual and soft music as in the days of Imhotep, but will partake in some instances of the character of human sacrifice, the devotee being burnt with his poor gift amid shouts of derision. But the training is invaluable in that by the end, nothing will appear too difficult or too arduous to carry out. On every count, however, it is necessary after years of theory, years in which one appears to oneself cleverer and cleverer, to learn this lesson so well put in Lowes Dickinson's *Magic Flute:* "And Tamino persevered and entered the seventh stage. And there he was aware of nothing and his soul was as nothing. And this state was beyond even peace, and he would have been glad to remain in it for ever. But as it so happened, on that day, he had gone out to meditate in the little wood that surrounded the monastery. And as he sat there by the way, lost in meditation, there passed a traveller. And thieves leapt out upon him and wounded and robbed him and left him for dead. He cried for aid to Tamino, but Tamino sat there unconscious, seeing and hearing nothing. And so the man lay bleeding on the ground, and there he was when Tamino returned to earth. Tamino was dazed, and for a long time did not understand what he saw nor know what he had to do. But presently, as the current of

in the flesh set in again, he went up to the man bound up his wounds as best he could. But the man's blood had flowed too long. He looked at Tamino and died."

Easy enough to satisfy the examiners in clinical medicine, but some people's first impulse when confronted with an emergency in general practice appears to be—"Take him to the hospital, quick." Anyone who has been "on duty" in the surgery has met with several cases where the "man's blood had flowed too long."

* * *

We would advise newcomers not to be put off by the nasty journey to Winchmore Hill—a very good spot for getting rid of the megrims or the vapours. Suitable mixtures are prescribed most Wednesdays and every Saturday by the various Hon. Secs. and posted in the Abernethian Room. One or two cups need to be recovered or retained.

* * *

We are especially pleased to be able to announce that the walls of the cloak-room have at last been cleaned up, because with the advent of the "world's greatest evangelist" from Paris, England must have all her sinful corners purged of dross—and this must indeed have been one of the sinfullest in the land.

* * *

The Treasurer and Almoners have been pleased to nominate Dr. Hugh Thursfield to be Physician to the Hospital. This is a graceful and a very popular compliment to one of the best-known characters on the Staff. In the evil and, we hope, distant day of his retirement it will be comforting to be able to look to the ranks of the Consulting Physicians for some more Oxonian epigrams delivered after dinner if no longer, alas, in Medical Out-Patients and Wards.

* * *

The death of Dr. Larner Botha Ward, from septic poisoning, at the King Edward Memorial Hospital, Ealing, on September 20th, 1928, removes a promising old Bartholomew's man, who, as Captain of the Association Football Team in 1925, was a notable figure. He will be regretted by a large number of friends.

STOP PRESS.

The Old Students' Annual Dinner was held in the Great Hall on Monday, October 1st. Sir D'Arcy Power's excellent speech and the stimulating provender provided by the Secretaries made this year's dinner as successful as any of its predecessors.

THE LIFE AND WORKS OF CLAUDE BERNARD.

(*Wix Prize Essay*, 1928.)

I.

"To keep men out of their Urnes, and discourse of humane fragments in them is not impertinent unto our profession."—SIR THOMAS BROWNE.

THE fragments of Claude Bernard lie scattered through the pages of eighteen octavo volumes. The work survives; the man has passed into the Urne. The funeral orations which are the canon of his life reveal but the dim figure of Bernard the scientist, who dwelled apart from his fellows as he wrestled with Nature for her "closet-secrets." Rarely the veil is lifted to disclose Bernard the man. But it is only a fleeting glimpse, and as in his lifetime the warmth of his personality passed unnoticed before the cold brilliance of his intellect, so now the man is lost in the scientist.

Claude Bernard was born on July 12th, 1813, in the village of St. Julien, Rhône. His parents died when he was young, leaving him their little cottage, with the vineyard which produced the red wine of the district and the slender income of the family. He sat first at the feet of the village priest, who taught him Latin, set him to sing in the choir, and pronounced him his favourite pupil. With this distinction he entered the Ecclesiastical College in the neighbouring town of Villefranche. But *res angusta domi* put a period to his college life. From schoolboy in Villefranche he became chemist's assistant in Lyons. The chemist, economically minded, made with the drugs that were left over a syrup, which was for the old ladies of Lyons a panacea, and for the young assistant an introduction to the study of experimental medicine.

But Bernard had other interests than pharmacy. While the neat hands dispensed syrup and the high forehead doubted its value, the dreamy eyes were focused on the stage. The experience of many evenings spent in the Théâtre des Célestins crystallized into a vaudeville, "La Rose du Rhône," the production of which earned for its author one hundred francs and encouraged him to attempt a more serious work, a prose tragedy in five acts called "Arthur de Brétagne."

The child is father of the man: the Bernard of the dispensary bequeathed a generous inheritance to the mature Bernard of the laboratory. Doubt, the keynote of his experimental philosophy, was bred in him by the quackery which he discerned in the treatment of his master's customers. Skill with his hands, the foundation of his experimental success, was fostered by the work in the shop. The intuition of the poet by a change

of application became the intuition of the scientist, and ambition filled him with a fruitful discontent.

In 1834 some change in his fortunes enabled him to leave the life in Lyons, with which he was not satisfied. Like all the heroes of France, responsive to the centripetal attraction of Paris, he entered "la scène du monde." He took with him his tragedy and a letter of introduction to Saint-Marc Girardin, who read the play and advised the author to study a profession, leaving poetry for his leisure hours.

Bernard chose medicine, entering immediately the Hôtel Dieu and the ken of François Magendie, who at that time occupied the Chair of Medicine at the College de France, and was Physician to the Hôtel Dieu, where he watched the young man as interne, then as externe. The year 1841 saw the beginning of a greater intimacy. "Dites donc," shouted the professor in his gruff voice from one end of a bench to the other, "je vous prends pour mon préparateur au Collège de France." For Bernard this was the 18th Brumaire.

The appointment was received with surprise as much by his colleagues as by Bernard himself. Picture a large ungainly youth, self-conscious and ill at ease. Now as at all times aloof from his fellows he did not impress them favourably. Success in medicine in France depends upon a high place in frequent and rigorous examinations. Bernard, critical to a fault, distrusted the knowledge of his teachers: distrust begat inattention and inattention failure. In the concours for interneship of 1839 he was placed twenty-sixth out of twenty-nine. The charge of intellectual laziness brought against him by a myopic younger generation was summarily dismissed by Magendie, who after the first days of the new appointment delivered his verdict: "Tu es plus fort que moi."

II.

"Man can do a great deal by observation and thinking, but with them alone he cannot unravel the mysteries of Nature. Had it been possible the Greeks would have done it; and could Plato and Aristotle have grasped the value of experiment in the progress of human knowledge, the course of European history might have been very different."—Sir William Osler.

Not until the first decades of the nineteenth century was the value of the experimental method generally appreciated. Descartes had established in his book, *De Homine* (1662), that while the bodily functions could be studied physically, the soul, which was independent of the body, could only be understood metaphysically. Stahl carried knowledge a stride forward when he stated that the soul directed the workings of the body. It was left for Bichat to found physiological science by teaching that the immediate causes of the phenomena of life resided, not in the soul, but in the properties of the tissues. But Bichat defiled his conception with a touch of the pitch of "vitalism." He believed that the essential character of living bodies was that far from obeying natural laws they maintained a perpetual struggle against them—"one of the most childish absurdities," wrote Magendie, "to which the weakness of human understanding has ever given birth."

Although this theory dominated natural science when Magendie began his medical career in 1808, it did not dominate him. He believed on the contrary that living bodies obeyed natural laws, and that these laws could be induced from the results of experiments upon the properties of living tissues. In the preface to his *Précis Elémentaire de Physiologie* he wrote: "My principal object has been to contribute to the introduction of the Baconian method of induction into physiological science." In spite of his devoted enthusiasm he was overcome by the diversity of phenomena which thoughtless Nature had provided for his study. "Louis XIV se comparait au soleil," he said. "Quant à moi, je suis beaucoup plus humble, je me compare à un chiffonier . . . je parcours le domaine de la science, et je ramasse ce que je trouve."*

From such haphazard investigations he could not construct an ordered science, yet he could teach his pupils invaluable lessons. Dismissing theories with the phrase, "tout cela ne sont que des paroles,"† he bent all his energies upon the discovery of facts. "Expérimentez!" was his watchword, and if the result of the experiment belied his anticipations, he would lead the laughter against himself. At least he had found fresh fuel for his cynicism.

Working as préparateur in "la tanière obscure et humide du Collège de France, qui fut pendant longtemps le seul laboratoire de vivisection de France,"‡ Bernard drank in the philosophy of Magendie. From him he learned to try his results in the flame of pitiless criticism until only the pure gold of truth remained. But he realized more completely than his master the goal to which the experimental method was leading—determinism. All the phenomena of life are invariably determined by definite material conditions. If these conditions are known, the phenomena can be repeated at will, and all the conditions will be ultimately discovered All that is necessary is systematic and remorseless questioning by an accurate observer. Of the question to be asked, he wrote: "La nature de notre esprit nous porte d'abord à rechercher la cause première, c'est-à-dire l'essence ou le pourquoi des choses. En cela, nous visons plus loin que le but qu'il nous est donné d'atteindre, car l'expérience nous apprend bientôt

* Bernard, Claude, Fr. Magendie, *Leçon d'ouverture du cours de médecine du Collège de France*, 8°, Paris, 1856, p. 12.

† *Ibid.*, p. 8.

‡ Faure, Jean-Louis, *Claude Bernard*, 4th ed., Paris, 1925, p. 17.

que nous ne pouvons pas aller au delà du comment."* Physiology explains the phenomena of life. So tireless Bernard continued to question and to explain.

Renan has left a picture of him at work: "C'était un spectacle frappant de le voir dans son laboratoire pensif, triste, absorbé, ne se permettant pas une distraction, pas un sourire. Il sentait qu'il célébrait une sorte de sacrifice. Ses longs doigts plongés dans les plaies semblaient ceux de l'augure antique poursuivant dans les entrailles des victimes de mystérieux secrets."† These mysterious secrets he unravelled with the grace of an artist. "He discovered as others breathe," said Paul Bert.‡ In the laboratory he joined the glorious brotherhood of those who "cultivated the good seeds which Nature hath set in them become not Shrubs but Cedars in their Generations."§

Half a century has elapsed since the death of Claude Bernard. His life at this distance, bountifully filled with scientific achievement, crowned with the highest honours in his country's bestowal, seems that of a sublime being fulfilling easily a predestined task. His own warning rings in the ears: "Quand on veut juger l'influence qu'un homme a eue sur ses contemporains, ce n'est point à la fin de sa carrière qu'il faut le considérer, lorsque tout le monde pense comme lui; c'est au contraire à son début qu'il faut le voir, quand il pense autrement que les autres."‖

His own words describe the difficulties of his early years, "les entraves qui étaient réservées aux expérimentateurs. . . . Dès qu'un physiologiste expérimentateur était découvert, il était dénoncé, voué à l'abomination des voisins et livré aux poursuites des commissaires de police."¶ The story of Jean-Baptiste Dumas lends the colour of reality to these words. Although already well known in the physiological world, "en considérant l'état de l'enseignement de la physiologie . . . et en voyant la carrière ingrate et sans issu dans laquelle il allait s'engager, M. Dumas se fit chimiste." "Il fallait être soutenu," continued Bernard, "avec une vraie passion pour la Physiologie."

This real passion is not a mushroom growth, and Bernard made several attempts to desert the physiological laboratory. In 1843 the Faculty of Medicine held a concours for the post of agrégé in the Department of Anatomy and Physiology. Bernard submitted a thesis** but failed to win the post. Again in 1851 the hand on the plough trembled. He had married some years before, and his wife, dissatisfied with the small income earned by him in the laboratory, urged him to engage in surgical practice. The *Précis iconographique de Médecine opératoire et d'anatomie chirurgicale*,* on which he had been working in collaboration with Charles Huette since 1846, bears witness to his interest in surgery, but fortunately for science the importunings of his wife fell upon heedless ears. In 1854 his vacillations were ended, when a Chair of Physiology was created for him at the Sorbonne. In the next year, upon the death of Magendie, Bernard, after eight years as professeur suppléant, was appointed Professor of Medicine at the College de France.

In May, 1843, Bernard had published his first scientific paper, "Recherches anatomiques et physiologiques sur la corde du tympan, pour servir à l'histoire de l'hémiplégie faciale."† Although his contention that the chorda tympani consisted exclusively of sensory fibres is wrong, as indeed it was thought to be when it was published,‡ the paper has a value as the first of a long series on the relationship of nerves to secretion. From this beginning the stream of his publications gathers into a mighty torrent, carrying all before it. There is a sudden break. In the winter of 1862–3, worn out by a strenuous life, seasoned with domestic worry, unrefreshed by any hobby, and spent in "une sorte de cave humide, malsaine," which was his laboratory, his health broke down, and he retired to his beloved St. Julien. The nature of his ailment was not diagnosed. but Sir Michael Foster§ suggests an appendix abscess, which later discharged itself by the bowel.

This enforced holiday gave Bernard an opportunity for reviewing his discoveries in an historical light. With the Alps as his horizon, surveying the whole of his twenty-one years' labours, he composed the *Introduction à l'étude de la Médecine expérimentale*."

III.

"M. Magendie a fait tant de travaux importants et tant de découvertes capitales; il a soumis à son expérimentation propre un si grand nombre de points divers de l'anatomie et de la physiologie, de la médecine, de l'hygiène, etc., qu'il faudrait, pour suivre ce savant illustre partout où il a porté son investigation, tracer en quelque sorte l'histoire des sciences dont nous venons de parler depuis le commencement de ce siècle."—CLAUDE BERNARD.

This tribute to Magendie, spoken by a bereaved disciple in the hour of his sorrow, seems at the present

* Bernard, Claude, *La Science expérimentale*, Paris, 1878, p. 55.

† Renan, Ernest, "Discours prononcé à l'Académie française, le 3 Avril, 1878," *Gaz. des Hôp.*, 1879, lii, p. 333.

‡ Bert, Paul, "Claude Bernard," pub. in *La Science expérimentale*, p. 29.

§ Browne, Sir Thomas, letter to a friend, London, 1690.

‖ Bernard, Claude, *Fr. Magendie*, Paris, 1856, p. 3.

¶ *Idem*, *Rapport sur les progrès et la marche de la Physiologie générale en France*, Paris, 1867, p. 144.

** *Idem*, *Des matières colorantes chez l'homme*, in 4°, Paris, 1844.

* Paris, 1854, in 18 jésus avec 113 pl. dessinées d'après nature, gravées et coloriées. An English translation by A. T. Norton, F.R.C.S. (2nd ed., London, 1886), is the only work of Claude Bernard's in St. Bartholomew's Hospital Library.

† *Annales médico-psychologiques*, 1843, i, pp. 408–439; *Archives générales de médecine*, 1843, ii, p. 332.

‡ Kirkes, *Handbook of Physiology*, 1st ed., London, 1848, pp. 440–441.

§ Foster, Sir Michael, *Claude Bernard* (Masters of Medicine Series), London, 1899, p. 181.

time exaggerated; applied to Bernard it becomes the cold and literal truth. Such at least is the impression created by the "Bibliographie" and the "Table Alphabétique et Analytique des Œuvres complètes," published in *L'Œuvre de Claude Bernard* (Paris, 1881). A detailed account of these scientific researches is beyond the scope of this essay. Michael Foster has summed up the achievements of Bernard in relation to the history of physiology for all time.

The claims for a brief mention of certain researches—on the pancreas, on the glycogenic function of the liver, and on the vaso-motor system—cannot be gainsaid.

In 1846, while studying the differences in digestion between Carnivora and Herbivora, Bernard noticed that some change in fat which enabled it to be absorbed into the lacteals began where the pancreatic duct entered the intestine.* Making this chance observation the starting-point of a series of investigations,† for which he devised a pancreatic tube, he discovered the threefold action of the pancreatic juice.

The discovery of the glycogenic function of the liver, Bernard's most important and most complete contribution to science, was based upon no chance observation. He had determined to understand the fate of carbohydrates in the animal body. In a series of ingenious experiments‡ he showed that the presence of sugar in the tissues of an animal was maintained independently of diet by the creation of a kind of sugar in the liver. By fermenting liver substance he had prepared an alcohol in 1848; § nine years later he isolated a pure substance which he named glycogen.‖ This discovery of a second function of the liver, besides giving the lie to the prevalent doctrine that each organ had only one function, gave the death-blow to Dumas's theory that animal tissues can only destroy.

It was through following up a side-track in his work on the method of production of animal heat that Bernard discovered the existence of the vaso-motor system. He had cut the cervical sympathetic in a rabbit,¶ expecting by analogy with the results of section of the spinal cord that the temperature of the injured side of the head would fall. To his surprise it rose appreciably. He observed at the same time and reported incidentally that the circulation was more active upon the hot side. It is curious that, although many investigators had cut the cervical sympathetic to study pupillary changes, and Bernard himself had been doing it repeatedly for ten years, no one until 1851 had observed the circulatory change. Later, realizing the importance of the observation, he developed it and established the existence of the vaso-motor system.*

Besides these three great discoveries, there are innumerable researches of minor importance. In 1846, the year in which the Webers published their description of vagus inhibition of the heart in a frog, Bernard observed it independently in a dog.† He studied and described the mode of action of urari (curare),‡ devising an experiment which has since been carried out by every student of physiology. He caused glycosuria in a dog by puncturing the floor of the fourth ventricle.§ He showed the value of anæsthetizing experimental animals with small doses of poisons, so that biopsy could be carried out.‖ But his fame rests, and rests securely, upon the discoveries of glycogen, of the vasomotor nerves and of the functions of the pancreas.

Bernard's work early found its way into foreign text-books. In England, Kirkes and Paget, preparing the second edition of the *Handbook of Physiology* (London, 1851), repeated the reference to the chorda tympani from the first edition, and added sections on the pancreas and on the newly discovered function of the liver, abstracted from the paper published in the preceding year. It is interesting to contrast this with the state of affairs which obtained in science two centuries before. In 1641 the surgeons of Saint Bartholomew's Hospital published *The Englishman's Treasure with the true Anatomie of Man's Body: compiled by that excellent chyrurgion Mr. Thomas Vicary.* This was a re-issue of the earlier edition of 1577, and contained no mention of certain experiments published thirteen years before by William Harvey, although he was attached to the hospital from which the "Anatomie" was issued.¶ This affords a striking illustration of the change in scientific outlook, which, beginning in the philosophical discourses of Bacon and Descartes, culminated in the experimentalism of Claude Bernard.

* Bernard, Claude, *Leçons de Physiologie Expérimentale*, Paris, 1855, ii, pp. 178 *et seq.*

† *Mémoires lus à la Société de Biologie pendant l'année* 1849, Paris, 1850, pp. 99–115.

‡ *C.R. Acad. des Sci.*, xxxi, 1850, pp. 571–4; xli, 1855, pp. 461–9.

§ *Ibid.*, 1848, xxvii, p. 514.

‖ *Ibid.*, 1857, xliv, pp. 578–86.

¶ *C.R. des Séances de la Soc. de Biol. pendant l'année* 1851, Paris, 1852, pp. 163–4.

* Bernard, Claude, *Leçons de Pathologie expérimentale*, Paris, 1872, pp. 360–95.

† *Idem, Leçons sur la Physiologie et la Pathologie du Système Nerveux*, Paris, 1858, ii, p. 381.

‡ *Idem, Leçons sur les substances toxiques*, Paris, 1857, pp. 463–70; *C.R. Acad. des Sci.*, 1856, xliii, p. 826.

§ *Idem, Leçons sur la Physiologie et la Pathologie du Système Nerveux*, Paris, 1858, i, p. 397; and *C.R. Acad. des Sci.*, 1850, xxxi, p. 574.

‖ *Revue des Cours Scientifiques*, 1869, vi, p. 258, etc.

¶ Probably the situation was more terrible than this. J. F. Payne has shown that the *Anatomie* attributed to Vicary was copied piecemeal from the fourteenth century works of Lanfrank and Henry de Mondeville. Thus Vesalius (*De humani corporis fabrica, Basileæ*, 1543) suffered the same insult as Harvey. *Vide Brit. Med. Journ.*, 1896, i, pp. 200–3.

In America *Notes of M. Bernard's lectures on the Blood, with an Appendix*, by Walter Franklin Atlee, M.D., appeared in 1854 (Philadelphia). Bernard's fame, like that of Louis earlier in the century, attracted Americans to Paris, and among them he had a reputation "for wonderful dexterity, unvarying affability, patient and kind attention always given to strangers."* To an American is due the only English translation of the *Introduction à l'étude de la médecine expérimentale.*†

Bernard's important works have been translated into most of the European languages, and in his lifetime he attained the dignity of Japanese.

The importance of these discoveries in the evolution of modern medicine is beyond computation, so fully have they been incorporated into the alphabet of physiology. Without the researches on the pancreas and glycogen the riddle of diabetes must have remained unsolved and insulin unknown. The consideration of the change in the blood as it passed through the liver inspired Bernard to conceive "les sécrétions internes,"‡ the recognition and the study of which has revolutionized the treatment of many diseases.

More important even than these particular effects is the general effect of Bernard's teaching upon the philosophy of medicine. In the *Introduction à l'étude de la médecine expérimentale*, the only part of a great work to be called *Principes de la médecine expérimentale*, which he completed, Bernard summed up the ideas and ideals which should govern the medical profession, as they had governed him during his physiological career. For him the experimental physician, practising medicine as a science rather than as an art, was the physician of the future. The passive *rôle* of watcher, which is assumed by the practitioner of the expectant medicine of Hippocrates, must be cast aside for the active *rôle* of Nature's helpmeet. But first her dark ways must be understood. Empirical remedies must not remain empirical. All cures, like all diseases, result from the action of determinate laws; and medical men in wards and in laboratories must search and study out these laws by way of experiment. But "experimental investigation, the application of chemical and physical knowledge and methods to the solution of biological problems," which became, in the words of Michael Foster,* "the distinguishing token of the physiology of this nineteenth century," is a means and not an end. Medicine begins in the clinics.

In the pages of this book, which is the foundation of experimental medicine, Bernard shows himself an acute observer and a deep thinker; but he is ever bound by the materialism of nineteenth century philosophy. The human mind studies the phenomena of Nature for its own material advantage. In his own words: "C'est là toute l'idée moderne dans les sciences: conquérir la nature, lui arracher ses secrets, s'en servir au profit de l'humanité."

IV.

"Je suis on ne peut plus heureux de tous ces témoignages d'estime et d'amitié qui m'arrivent."—CLAUDE BERNARD.

General recognition did not come to Bernard until he lay at St. Julien wearing the bridle of Theages. The possibility of his loss aroused the world to the realization of his greatness. Pasteur had published a panegyric on the man and his work in the *Moniteur Officiel* (November 7th, 1866), hoping that "la publicité donné à ces sentiments intimes aller consoler l'illustre savant des loisirs obligés de la retraite." "Cet article," wrote Bernard in the letter to Sainte-Claire Deville quoted above, "m'a paralysé les nerfs vaso-moteurs du sympathique et m'a fait rougir jusqu'au fond des yeux."

On the heels of this public show of good wishes by friends and colleagues came official appreciation. In 1867 he was appointed Président perpetuel de la Société de Biologie and created Commandant de la Légion d'Honneur. In 1869 he was received into the Académie Française, delivering the "Éloge de Flourens." In the same year he became Senator of France.

But these honours, well deserved though they were, pale in significance before the change in scientific outlook which dates from his illness. Time had fretted away the chains of Magendie's domination, and Bernard, realizing that facts are after all but bricks for the master builder, began to seek more general conceptions. His chief original work had already been accomplished; from this time he is exercised with its development and its wider application.

After his illness, too, he appeared more often in society. "Even while avoiding philosophic systems," he had written, "I like philosophers and greatly enjoy

* *Amer. Journ. of Med. Sci.*, 1878, lxxvi, p. 16 1(obituary notice of A[ustin] F[lint] jr.

† Bernard, Claude, *An Introduction to the Study of Experimental Medicine*, trans. by H. Copley Greene, N.Y., 1927.

‡ *Idem, Rapport sur les progrès et la marche de la Physiologie générale en France*, Paris, 1867, pp. 73 and 120.

* *Brit. Med. Journ.*, 1878, i, p. 519 (report of a lecture by Michael Foster on Bernard to the Physiology students of Cambridge University).

their converse." At Passey, where the recluse Bouley gave weekly dinners, Bernard was an honoured and a frequent guest. Alas! no Gascon Boswell records the brilliant discussions in which there joined Berthelot, chemist, philosopher, minister of France, Renan, author and genius, Deschamps the poet and Bernard himself.

Bernard frequented also the salons of Paris, where he was met by Edmond Goncourt. In the *Journal des Goncourt*, about the publication of which such a scandal raged, Bernard first appeared in 1868. Although back at work, he was obviously far from well—" il a le masque d'un homme qu'on a retiré de son tombeau,*" and later in the year " Vu ce soir . . . Claude Bernard, pareil à un spectre de la science."† On April 7th, 1869, there is a more illuminating entry. The talk had turned to the future of science: " Claude Bernard, de son côté, aurait annoncé qu'avec cent ans de science physiologique, on pourrait faire la loi organique, la création humaine en concurrence avec le Créateur."‡ An awed silence greeted this remark; it was no idle observation: Bernard refers often§ to this theory, that new species will be created which exist potentially in natural laws, but of which Nature is not aware. This prophecy comes nearer realization as knowledge of chromosomes increases.

It must have been this same greatness of conception, this same enthusiasm for and faith in the future of science that had impressed Napoleon III five years before. In 1864 Bernard had been invited to the Court at Compiègne, where he had held the Emperor in conversation for more than two hours. " Vous avez ensorcelé l'Empéreur," wrote Duruy to him, offering him on behalf of the Emperor whatever he desired. Bernard asked for a laboratory and a préparateur at the Sorbonne, and a laboratory at the Musée d'Histoire Naturelle. Here a Chair of Physiology was being instituted for him, which he entered in 1868, resigning his chair at the Sorbonne to his favourite pupil Paul Bert.

In spite of these social and academic activities Bernard remained a lonely figure. His wife and his two daughters, regarding him as a vile monster who spent his life mutilating defenceless animals, kept a separate home. He himself lived at 40, Rue des Écoles, looked after by his maid and inclined to be petulant when disturbed by his friends. " Le physiologiste n'est pas un homme du monde," he said,‖ " c'est un savant, c'est un homme qui est saisi et absorbé par une idée scientifique qu'il poursuit: il n'entend plus les cris des animaux, il ne voit plus le sang qui coule, il ne voit que son idée et n'aperçoit que des organismes qui lui cachent des problèmes qu'il veut découvrir."

In the lecture-room his early shyness clung to him. Diffident in manner he would speak haltingly, vaguely; of a sudden some spirit stirred within him, and he would pursue a new idea with a simplicity and a clearness of expression that amazed his audience.

But it is in the laboratory that the man himself is to be seen, surrounded by his adoring " famille scientifique " —Paul Bert, Kühne, Dastre, Armand Moreau. Here Pasteur had learned to worship, and hither he would come to consult the master about new researches. Observing Nature Bernard would by intuition create an hypothesis. This he would test by experiment. If the idea was shown to be wrong, he would cast it aside; upon *l'idée fixe*, the idola of Bacon, he had declared relentless war. Even if his idea seemed to be right, he would attack it with counter experiments, ever doubting the accuracy of his observation. He spent no time philosophizing or collating the ancient authorities. Books he admitted as part of the laboratory of a man of science: " we can find there only the history of the human mind, which is quite another matter." Nature was the book whose page he could read best. To read her with an unbiased vision was his constant aim.

In his latter days he lost the marks of ill-health. Tall and dignified, his fine head and flowing white hair gave him an impressive appearance. Patience, intelligence, perseverance, singleness of purpose had stamped his firm features with absolute serenity. A pupil has described him* as " one of those truly great teachers who exercise a great and expanding influence over the minds of their pupils. He possessed a gentle, mild and thoroughly infectious enthusiasm. A conscientious worker, a sincere lover of truth, a marvellously dexterous experimenter."

During the year 1877 Bernard became interested in the process of fermentation. Refusing to believe Pasteur implicitly, he was convinced that fermentation could be carried out by a soluble enzyme outside the cell. In the midst of this work, on the last day of the year, he caught a chill, acute nephritis followed, and on February 10th, 1878, he passed away. What his intuition had shown him, Buchner was to prove twenty years later.

"C'eût été pourtant bien beau de finir par là!"

* Goncourt, Edmond, *Journal des Goncourt*, Paris, 1888, iii, p. 200.
† *Ibid.*, p. 229.
‡ *Ibid.*, p. 288.
§ Bernard, Claude, *Rapport sur les progrès et la marche de la Physiologie générale en France*, Paris, 1867, p. 234, note 228; also *Bull. Acad. de Méd.*, 1885, xiv, p. 732 (Béclard, J.).
‖ *Idem, Introduction a l'étude de la médecine expérimentale*, Paris, 1865, p. 180.

* McDonnell, R., *Report of the 48th Meeting of the British Association*, held at Dublin in August, 1878; London, 1879, p. 579.

V.

"But the iniquity of oblivion blindely scattereth her poppy, and deals with the memory of men without distinction to merit of perpetuity."—SIR THOMAS BROWNE.

The funeral cortège wound slowly through the mourning streets of Paris to Saint-Sulpice, from Saint-Sulpice to Père-Lachaise. He who had fought so nobly for humanity passed with a soldier's honours to the grave. He was neither burned at the stake like Servetus, nor left to die unknown like Mayow; his discoveries neither revolutionized science like Harvey's circulation, nor hindered its progress like Stahl's phlogiston. He lived a simple life, of fixed purpose, sometimes a general, sometimes an humble warrior in the army of science, always filled with a sublime faith in its power to benefit humanity, seeking for himself nothing, for the world the truth which never perishes.

A. W. FRANKLIN.

THE PUERPERIUM COMPLICATED BY PARATYPHOID FEVER.

ON April 16th, 1928, I confined Mrs. R—, a primipara, æt. 32. Labour was somewhat prolonged owing to secondary inertia and delivery was effected with forceps under ether anæsthesia.

On the day prior to delivery ol. ric. ℥j was given and this was retained without causing evacuation of the bowels.

Condition was normal until the 19th, when there was profuse diarrhœa, with slight abdominal distension. Temperature 103°, pulse 120. No tenderness over uterus. Lochia normal in quantity and not offensive in odour.

The following day temperature 104°, headache and thirst; diarrhœa still profuse (12–15 evacuations in 24 hours). At this time patient was having tr. opii ℥ij in 12 hours, but without marked improvement in the stools—the appearance of which was not helpful. The abdomen was more distended and tympanitic, and there was tenderness in the left iliac fossa. Uterus and lochia normal.

The diarrhœa continued during the ensuing week, being unaffected by the tr. opii, but eventually responded to pot. permang. lavage *per rectum*.

On the fourth day of puerperium, suspecting a typhoid infection, the information was elicited that during the last two months of pregnancy the patient had eaten a considerable quantity of water-cress, culled from the neighbouring marshes. On the tenth day of the disease blood was taken for Widal's reaction, and the agglutination was strongly positive to *paratyphosus* B.

Following this, the patient was removed to the Isolation Hospital and returned cured at the end of six weeks. At no time was there any sign of rash.

The difficulty experienced in this case during the first week was the exclusion of the obstetrical "bugbear" sepsis.

I regret that the child's blood was not examined.

G. H. BUNCOMBE.

NOTES OF ABERNETHY'S LECTURES.*

LECTURE XI.

IN ulcers, there is something more than mere absorption, there is an attempt to renew the parts removed; when you press a pea on a part to make an issue, it sinks in, and makes a round hole of its own shape and figure, that which is beneath it being taken away by the absorbents, and round the bottom, granulations will be plainly observed, which is the attempt of nature to repair the injury. Ulcerative inflammation is produced by a certain degree of irritation, less than that which produces mortification, and when absorption does not take place properly, mortification supervenes; thus when a person lies long in bed, the circulation is partly suppressed, absorption and ulceration is produced over the sacrum, or if the patient be much debilitated, and absorbent system languid, gangrene comes on. In Lord Anson's voyages, some remarkable cases are related: the sailors had suffered from cold and hunger, and the scurvy attacked them, old ulcers which had long been healed, broke out afresh, and bones which had been fractured and united, now separated again. Ulceration then appears to me a substitute for mortification; according to this theory, where ulceration spreads, the parts must be weak; in its cure, therefore, two things are to be done, first, to quiet, as much as possible, all irritation, and, secondly, to support the strength of the parts. To quiet irritation, you poultice, you apply cold wet cloths, or a solution of opium, and do every thing to moderate the inflammation, which would weaken the parts. When the devastation is ended, you must attend to the reparation. granulations are small tubercles of gelatine or coagulable lymph, which become organized nearly as fast as they are deposited; they appear a very proper matrix for

* Taken by George Sampson, F.R.C.S.E., etc.

the elongation of vessels, which when injected, appear like rays diverging from a centre. During the process of granulation, there is secreted a fluid, which is good pus, this proves that pus does not depend on inflammation. Healthy granulations have a conical form, and florid red colour, they are small and well organized; unhealthy ones are flat, large and pale. The state of an ulcer is judged of in some degree by the pus which it secretes, for if this be not good, the ulcer cannot be healthy. The discharge from ulcers is sometimes viscid, glairy and bloody, which is called sanies; sometimes more firm, adhering to the surface, and called sordes, and lastly, when watery, it is called ichor; this excoriates the skin and produces irritation. Does the irritating discharge do harm to the ulcer? by some it is supposed that it does not, and among this number was Mr. Hunter, he was led to this opinion by the phenomena of gonorrhœa: but by correcting the discharge of an ulcer, its state is improved, and it assumes a more healthy appearance. Pus is the natural discharge of ulcers, it has been considered too as their natural dressing, and if an healthy ulcer be dressed oftener than once in twenty-four hours, its healing is prevented. The process of skinning is curious, the shooting of skin over an ulcer generally proceeds from the edges but not always, for we sometimes see little islands of skin. No part of the body when once destroyed is perfectly reproduced, the new skin is not perfect, it wants the rete mucosum hence the light colour of the scars of Africans who have had ulcers; but after a time there is rete mucosum secreted, and these scars become darker. Another very curious circumstance in the history of cicatrization is, that it is no sooner complete, than absorption of the granulations takes place; thus an ulcer of twelve inches in diameter forms a cicatrix of three or four, the surrounding skin is puckered, and the surgeon is often blamed for that which he cannot possibly prevent, the skin of the face is destroyed by a burn, the ulcer fills up, the granulations are absorbed, and the face is distorted, if you divide the cicatrix, the same thing occurs again. In describing ulcers, I generally follow Sir Everard Home, who I believe divides ulcers into those which do not heal, first, from weakness, secondly from irritability, and thirdly, from indolence: the first will be benefited by tonics, the second by applications which will quiet the irritability, and the last by stimulants. In many cases, ulcers do not heal from the weakness of surrounding parts, if an ulcer be seated on the thigh, and another on the leg or ancle, that on the thigh will heal first; the healing of these ulcers is promoted by strengthening the general system, and by tonic not stimulant applications. In the irritable ulcer, the mildest dressing will give pain, the margin of the surrounding skin is ragged and undermined, the bottom of the ulcer is unequal and made up of cavities of different sizes, no distinct granulations, but a whitish spongy substance, covered with a thin ichorous discharge.

The indolent ulcer is the most common, you may beat them with a probe without creating much pain, they have little sensation, the granulations large, the cavity does not fill up, from want of action in the part. As to the treatment; to a healthy ulcer, you apply a simple dressing, because if you left it exposed to the air, the secretion would incrust upon it, you therefore use such an application as spermaceti ointment, changing it every twenty-four hours. In irritable ulcers, you apply tepid aqueous solutions of opium, decoct: papaver:, poultices &c, and rest your patient by keeping him in an horizontal position. As the healing process advances, you change these soothing applications for others of a more stimulating kind. Indolent ulcers require stimulants, it is generally of little consequence what kind you use; one kind of stimulus acts only for a certain time, and then becomes inert, it must therefore be often changed. The indolent and irritable ulcer appear to me to be essentially the same, weakness is apt to degenerate into indolence, and if you arouse that indolence, it becomes irritable; in both cases there is a great degree of weakness, but with this difference, that if you stimulate an irritable ulcer, you add to the disease, and more parts are destroyed. The good effects of bandages, in ulcers, every one is sensible of; surgeons are much indebted to Mr. Baynton for making them acquainted with the mode of applying these; they support and strengthen weak vessels, and prevent their being over distended, and by their gentle pressure, absorption is promoted: when they are applied in the proper way, the good effects resulting from them are very striking, the most vexatious sores may often be cured in this way after the failure of every other application. Some persons are averse to pressure in irritable ulcers, but if it be moderated according to the state of the ulcer, both indolent and irritable ones will do better under pressure.

The heat occasioned by this mode of treatment is sometimes inconvenient, Mr. Baynton is in the habit of applying cold washes; the mode of applying this remedy must be particularly attended to, patients themselves cannot succeed at all in it; I so much depend on its efficacy, that I do not regard what I put to the sore, generally a bit of lint, with or without salve. I apply the plaister after the manner of a many tailed bandage, and over it the roller—I will relate a case, it is that of a man who had a number of sores on his leg, which were what are called sinuous, they were so very bad, and his

general health so much disordered, that his surgeon advised amputation; I was consulted, and recommended it not to be done, I kept his bowels regular, and placed him in an horizontal posture, which is similar in its effects to bandaging: he had another ulcer form on the fibula, and was exceedingly ill, that I thought he would have died; being in a close part of the city, I wished to get him into the country, but how was this to be done? it occurred to me that it would be a good plan to apply straps of adhesive plaister and bandage, this I did, and he could then do what he could not before, that is, put his foot to the ground without pain; I saw him next day, and he told me he had been in heaven; on the next day his leg was uneasy, which was occasioned by matter pent up, I dressed it again, leaving an aperture for its escape, in the course of a fortnight he was able to serve in shop.

LECTURE XII.

THERE are ulcers with morbid peculiarities, which I think depend on the state of the general health, and to relieve them we must endeavour to improve that, I have seen this exemplified times out of number. Sir Evrd. Home has spoken of ulcers benefited by the application of salt & water, such as scrophulous—by mercury, as those which have thickened edges—and others by hemlock &c. In many sores you are obliged to try a round of remedies, and I have seen ulcers which have had no good done them by a great variety of applications, and have been cured unexpectedly by some very trifling thing. Many applications do good by correcting the morbid secretion from sores, vegetable juices such as that of carrots, acids, which must be very dilute or otherwise sloughing may be produced, charcoal, fermenting poultices, and carbonic acid. The stimulants to be used for ulcers, are very various, some of the resins, as myrrh, mastich &c dissolved in spirit, are recommended for the purpose, they seem to have the same effect on sores, as cordials do on the stomach. There are sores connected with a varicose state of the veins, Sir Evrd. Home has proposed tying them, but the practice has turned out very unfavorably. Mr. Brodie has proposed the division of the veins near the part; I can say nothing of it from experience, you must read his paper on the subject. I now proceed to speak of those affections which seem to consist in a disordered state of the nerves in a part, there does not at the time seem to be any thing evidently wrong in the vascular system; I think it proceeds from something affecting the nerves above the part rather than in the part itself, if this be not the case, you conclude it arises from some disorder at the origin of the nerves: the most evident case of this kind is Tic Doloreux. In this affection the patient has a most aggravating pain in a part, which is referred to the sensorium, it begins in the extremity of the nerve, for which reason a division of it has been proposed. Now I have often wondered that some wise-headed person has not divided the nerve going to a gouty man's toe; for what is there wrong in gout or rheumatism where you have very acute pain? is there not general nervous irritation? certainly: and so in tic doloreux, there is local pain occasioned by general nervous disorder. If you do not rightly consider these things, your remedies cannot be well understood or applied. Many of these cases are cured by taking off the excitement of the nervous system, which is occasioned by a disordered state of the digestive organs. I will tell you a case of the disease in question, arising in this manner, and which was completely cured. I was staying at a country house *pro tempore*, and observed a person going by very frequently, grinning like a Cheshire cat; on enquiry, I found that he was a gentleman-farmer living near, and was affected with tic doloreux in the face. After a time he found out that I was a London surgeon and came to ask my advice; I ascertained his mode of living to be a bad one, that he was in the habit of tipling &c, however in the course of a few weeks, he got perfectly well by paying attention to the state of his bowels, regulating his diet, taking alterative doses of mercury &c. This case brought me another of a similar kind, it was that of a medical man's wife, who had tried without benefit, all that the London physicians could do for her; she got well by the above simple and what I call rational measures. The rational practice of medicine must be founded on a knowledge of the natural functions.

A CASE OF TETANUS WITH RECOVERY.

THE patient, a boy, æt. 11, was admitted on August 18th, 1928, complaining of difficulty in swallowing and "spasms."

Previous condition.—Some time ago, probably about three weeks, he scratched his right elbow.

August 4th: While playing in the street he scratched his right foot. He remained well till—

August 11th: He had slight difficulty in swallowing. Saw his doctor, who said he had a swollen gland. His head was held on one side, and he complained of a stiff neck.

August 14th: Noticed to be stiffer in neck and back,

and complained of pain in the back and left side. His jaws were stiff, and he could not open his mouth properly. He had spasms at night, head bent backwards, and once bit his tongue. Swallowing more difficult.

August 16th: Face observed to look stiff.

August 17th: Walking stiffly and with difficulty. His voice was changed, apparently because of the jaw stiffness. No other abnormal symptoms were noticed.

Previous and family history.—Nothing of importance. Healthy, active child.

Condition on admission.—Walked in, spastic gait, walking on tips of toes; peroneal spasm present. No opisthotonos, but slight rigidity of posterior neck muscles and sterno-mastoids.

Eyes: Eyelids rather screwed up, otherwise normal.

Mouth muscles in slight spasm, *risus sardonicus*. Jaws in spasm, cannot be opened more than 1 in.; Tongue protruded with difficulty. Impossible to see fauces; caused spasm.

All reflexes increased. Patellar and ankle clonus present. Plantar reflexes both flexor. All thigh and calf muscles in spasm. Arms not spastic.

Other systems showed nothing of importance. The urine was normal.

Blood-count.—Red blood cells, 4,720,000; white blood cells, 12,800; hæmoglobin, 82%.

Cerebro-spinal fluid.—Clear, colourless; cells, *nil*; total protein, 0·02%; globulin, no haze; sugar, normal reduction; chlorides, 0·72%.

Treatment.—On admission he was anæsthetized and 15 c.c. of clear, colourless cerebro-spinal fluid was withdrawn. 13,000 U.S.A. units of tetanus antitoxin was given intrathecally, and 11,000 units into the buttock. This was repeated on the next two days, the total amount of antitoxin given being 39,000 U.S.A. units intrathecally and 34,000 units intramuscularly.

The amount of antitoxin given intrathecally was practically regulated by the anæsthetist's opinion of the patient's condition, as in each case as much cerebro-spinal fluid as possible was withdrawn, and the same amount of antitoxin, less 2 c.c., was inserted (1 c.c. = 1000 units).

A further dose of 16,000 units was given next day intravenously. It was followed by a severe reaction, which settled in twenty-four hours.

On the first day morphia gr. $\frac{1}{8}$ was given to control the spasms, after which he was given potassium bromide and chloralamide, gr. xxx of each, 4-hourly *per rectum* for three days, followed by half this dose 6-hourly by nasal tube for six days.

Feeding for the first two days was by glucose salines *per rectum*, as he was quite unable to swallow—or indeed to vomit—any attempts leading to spasm of the pharynx.

After the second day a nasal catheter was passed into the stomach, and he was fed on peptonized milk, eggs and glucose. This was continued, the tube being left in for forty-eight hours at a time, for eight days, following which he was able to swallow fluids.

The spasms were never very severe except on the second day, and they did not seem to be induced by light or touch. Opisthotonos was never marked, though the neck rigidity was pronounced for three days.

From the third day he improved steadily, taking an interest in life—and the wireless—on the eighth day, and being able to sit up and talk fairly well on the tenth day, though his *risus sardonicus* still remained and his voice sounded very "tinny."

He was discharged on September 16th, a month after admission, quite well apart from natural weakness. There were no signs of spasm; he could walk and talk naturally, and there was no residual palsy. All the reflexes were rather unduly active, but otherwise he was normal.

The main points of interest are: The slow onset of the disease after it developed, the long latent period before development, and the mildness of the attack—all being of good prognostic significance—and the comparative absence of pain.

I have ventured to record this case at some length, as tetanus is now—at any rate in London—a comparatively rare disease, and recovery is still an uncommon sequela, despite the use of antitoxin.

I am indebted to Dr. Geoffrey Evans for permission to publish the case.

O. R. TISDALL.

THE SEVEN CORPSE CASE.

COME now to one of the most notable of all our cases, inasmuch as it showed me a hitherto unsuspected aspect of the kaleidoscopic character of the great criminologist.

He had invited me to supper and we sat in his old familiar rooms at Baker Street waiting for the meal. I knew he had something on hand, but as usual waited for him to announce it at his leisure. He was sitting in his customary attitude in his armchair, attired in dressing-gown and slippers and watching the clouds of his tobacco-smoke through half-closed eyes. He shot a keen glance at me from beneath his shaggy eyebrows.

"Are you busy at present, Watson?" he asked.

"As a matter of fact, I have nothing very urgent at present," I replied, "although I have a patient in my

as yet undecided how to treat her; there are two nursing home who is suffering from eclampsia. I am alternatives—the method of Stroganoff and the Dublin method. The former means active measures which will necessitate my presence there to-night; the latter consists of sedatives, rest in bed, and light fluid diet, all of which can be applied without my aid. But I am afraid I am talking Greek to you."

"Not at all, my dear fellow," said Holmes, smiling faintly, "on the contrary, eclampsia is a condition with which I am perfectly familiar. You may be unaware that I published a small monograph on the subject some ten years ago. I had at that time a large and powerful bulldog named Herbert who suffered from recurrent fits. A glance through the literature satisfied me that the animal was an eclamptic, and I at once embarked upon an active course of treatment as recommended by Stroganoff, who, I may add, is a personal friend of mine. The fits, however, increased in frequency and violence. One afternoon, during a particularly violent fit, when I was endeavouring to examine the optic discs I was severely bitten"; he tenderly felt his lean calf with his long, sensitive fingers—"I was alone and had to walk to the top of the house in order to get the necessary instruments, and it was only at the end of two hours and thirty-seven minutes, after extracting eighteen of the animal's teeth and sawing through the lower jaw that I was free. I returned the beast to his kennel and dealt him a heavy blow on the head with a spanner in order to restrain his movements. On my next visit a week later I was aston——gratified to find him amenable and free from any suggestion of a fit. I published the results of my researches, which were particularly well received in Ireland, with the result that what you facetiously term the Dublin method is really——"

"——the Holmes method," I put in.

"Exactly. But to turn to business, Watson, I have some work to-night, dangerous work, in which I shall need your assistance, so if you can leave your patient I shall be grateful for your company."

"Splendid," I replied. "I have just engaged a new night superintendent—an excellent woman. I will telephone at once and order the Dub——the Holmes treatment"—he bowed slightly and smiled—"for my patient."

When I returned I found Mrs. Hudson had just placed on the table an appetizing meal of gin and kippers. We ate for an hour in silence, the only sounds being the crunching of fish-bones and the melodious gurgle of gin. We finished our meal, lit our pipes, and Holmes introduced me to the night's work.

"I have for some days," he began, "been interested in a large and gloomy-looking house on the outskirts of London. I will not describe its situation more fully for reasons which I will give you later. I was walking past it four days ago when I saw the front door open; a coffin was carried to a waiting vehicle which drove off down the street. As is my custom, I searched the obituary columns of all the daily papers the same night, but found no death mentioned under that address, and decided to watch the house next day. Accordingly I spent the whole day before the house playing a barrel-organ, and was fortunate enough to see another coffin brought out and carried away. I followed it, pulling my organ after me, but unfortunately ran over a dog, and in the confusion which followed the coffin disappeared. Yesterday I spent the day in the same street hawking onions, and at 5 p.m. a vehicle arrived; a coffin was carried out as before, and the driver made off at a rapid pace. I followed at a run, pushing my barrow before me. Unfortunately, in negotiating the corner my near wheel struck the kerb and the barrow overturned, scattering some four hundredweights of onions in the road; a crowd rapidly collected, and before I could gather the vegetables and continue the pursuit the coffin was again lost to sight.

"But even to you, my dear Watson, it must appear odd that three deaths in as many days, occurring in the same house, should escape comment in the press, and yet even in the obituary columns the address of the house has not been mentioned. As far as I know there is no epidemic in that part. I am convinced that no less a person than our friend Professor Larkin, the notorious and elusive blackmailer, thief and murderer, is at the bottom of this; delay may cost more lives, and I propose to-night to enter the house from the back and bring the mystery to light. Larkin has been a thorn in my flesh for many years, and I expect to find abundant evidence to bring him to the gallows."

We smoked on and Holmes played his violin and talked brilliantly of relativity and vaccine therapy until midnight sounded from a neighbouring clock. We then arose, put out the lights and descended to the street. The night was cold and there was no moon. Gusts of wind made us button our coats around our throats and pull our hats over our eyes. Holmes walked in silence and took his way by a devious road, threading his path as only he knew how with unfaltering step through dark alleys, low-browed slums and winding lanes with lights neither in the streets nor in the mean houses which bordered them until I was hopelessly lost. At last we emerged at one end of a long wide street, apparently more prosperous than we had hitherto passed. It was lit by a wearying length of street-lamps, and as far as could be seen we were at the back of a row of houses.

Holmes walked rapidly on until he came to the forty-eighth lamp-post, where he stopped. A wall four feet high surmounted by a row of iron spikes confronted us, and some fifty feet on the other side was the back of a house five storeys high, with but one light glimmering fitfully in a window at the very top.

"This is the one," whispered Holmes; "we shall proceed in single file, and on no account must you attempt to draw abreast of me. Now for it!"

He vaulted lightly over the wall after a quick glance up and down the road. But he failed to clear the top completely, and his trousers, which were made for him in his stouter days, and were now rather baggy at the back, caught on a spike. He hung there for about five minutes, kicking and lunging like a child learning to swim at the end of a rod and line. At last I went to his assistance; one snip with my scissors was sufficient to divide the suspending band of trousers, and Holmes dropped with a loud crash into a cucumber frame just beneath him. I found a gate near by through which I entered just in time to see him emerging from the cucumbers. There was a large tear in the back of his trousers through which a considerable area of his white shirt protruded. This served me as a beacon in the dark. He again encountered some difficulty a few yards further on by walking with his head down into a clump of gooseberry bushes. He extracted as many thorns as he could in the dark, but time was pressing and he started at a run to cover the remaining twenty feet to the house. I followed hard on his heels when suddenly he rebounded on me and we fell in a heap on the ground.

After we had disentangled ourselves we found the reason, for Holmes had run into a wall of wire-netting provided as an encouragement for the sweet peas, and had been shot back like a stone from a catapult. After that we had no more difficulty. He prised open a small window through which we climbed, and we found ourselves in the basement.

Holmes flashed his torch around and revealed a grim sight—four long tables covered with white sheets. He raised the first to discover the face of a newborn child. The left ear was missing, the jaw broken and the face badly mangled.

He replaced the sheet and I saw at once that he was deeply moved; his face was as pale as the sheets themselves, and his jaw protruded like a battering ram.

"I have seen enough," he whispered; "someone shall hang for this," and he crept stealthily but swiftly through the open door.

But a vague suspicion had entered my mind, and I lifted the sheet again. Somehow the face had appeared familiar, and feeling in my pocket I produced a tiny ear, which I applied to the left side of the child's face. It fitted exactly. My heart stood still as the truth flashed upon me——We were in my own nursing home!

Here was an unsuccessful forceps delivery I had attempted the previous day. Next was a man on whom I had performed a radical mastoid operation—my osteotome had penetrated a trifle too deeply. Next was the infant's mother who had succumbed to an intractable P.P.H. in spite of continuous blood-transfusion. It was not my fault, I explained to the husband; "I cannot give a transfusion and compress the uterus at the same time—I am a human being, not an octopus." Last of all was the blood-donor—a nice lad, I was sorry to lose him; he was a universal donor and his blood was always reliable.

But Holmes must be stopped at all costs. I ran out of the basement and upstairs into the hall, and standing in the well of the staircase looked up. Far ahead, half-way up the fourth flight, I saw Holmes's shirt-tail gleaming in the gloom and oscillating rhythmically as he went up on all fours with incredible speed, his nose on the ground like a hungry bloodhound after a lamb chop. Hastily removing my boots I ran up the stairs and arrived panting at the top just as he disappeared round the corner. He was now lying flat on his stomach and worming his way along the corridor. I pursued him silently and was about to grasp his ankle when a door opened in front of us. We both lay flat close against the wall as a figure approached, clad in white, carrying a shaded green light, and apparently engrossed in a paper. It drew nearer, and at last was level with Holmes. I was about to heave a sigh of relief, when in passing him it planted a large and heavy foot on his long, sensitive fingers. He squealed and sat up. Instantly there followed a crack like a cricket bat meeting the ball; Holmes gave a yell and lay down. The corridor was flooded with light and revealed my recently appointed night superintendent—an excellent woman—brandishing a large stone hot-water bottle, Holmes crouching by the wall with the fingers of one hand in his mouth, his other hand clasping his jaw, which was no longer protruded like a battering ram, and myself a short distance behind in stockinged feet.

"Good evening, Dr. Watson," she began in icy tones; "this is an unexpected visit."

I have always been afraid of "night supers," as we affectionately called them in my hospital days, but the gin stood me in good stead.

"I was worried about my patient," I replied, "and came up to see her with my friend Dr. Holmes. He found the stairs rather tiring, so we were just—er—resting," and I looked her in the eye with an unblinking stare.

"Indeed," and she sniffed suspiciously, but the kippers fortunately predominated; "well, here is the patient's chart," and she pointed out its features with her forefinger. The temperature was typical of the condition known as rat-bite fever.

"Well, Sister," said I, and started as the front door slammed violently below, "this is indeed not typical of eclampsia, but we are fortunate in having my colleague Dr. Holmes here is an authori——" I broke off as I realized we were alone.

"One moment," I cried, and rushing downstairs I tore open the front door and ran out on to the pavement. The sound of flying footsteps came to my ears and I saw far away down the road a white spot, for all the world like the tail of a white shirt, which flashed light and dim alternately as it passed the street-lamps with the speed of a greyhound.

It was Holmes going home. F. M. J. W.

STUDENTS' UNION.

ASSOCIATION FOOTBALL CLUB.

At the Annual General Meeting of the above Club the following were elected to officiate for the coming season:

President: Sir CHARLES GORDON-WATSON.
Vice-Presidents: R. FOSTER MOORE, Esq., A. E. GOW, Esq., W. H. HUNTLEY, Esq.
Captain: I. E. PHELPS.
Hon. Secretary: A. W. LANGFORD.
Captain of 2nd XI: A. CAPLAN.
Hon. Sec. of 2nd XI: G. H. BROOKMAN.
Captain and Hon. Sec. of 3rd XI: B. W. KNIGHT.
Committee: J. R. CRUMBIE, C. A. KEANE, A. M. GIBB.

The 1st XI fixture list is as follows:

1928.			
Oct.	13.	Cuaco (A.F.A. Cup, 1st preliminary round)	Home.
,,	20.	Downing College, Cambridge	Away.
,,	27.	Middlesex County Championship (1st round)	
Nov.	1.	Keble College, Oxford	Away.
,,	3.	Old Salopians	Home.
,,	10.	University College	Away.
,,	15.	Lancing College	Home.
,,	17.	Old Mercers	,,
,,	24.	Clare College, Cambridge	Away.
Dec.	1.	Old Cholmelians	Home.
,,	12.	St. John's College, Cambridge	,,
,,	15.	University College	,,
1929.			
Jan.	5.	Occident	Away.
,,	12.	Old Wykehamists	Home.
,,	19.	Old Westminsters	,,
,,	26.	St. John's College, Cambridge	Away.
Feb.	2.	Old Cholmelians	,,
,,	9.	Old Malvernians	Home.
,,	16.	Old Bradfieldians	,,
,,	23.	Keble College, Oxford	,,
Mar.	2.	Queen's College, Oxford	,,
,,	13.	Centels (Annual Charity Match)	Away.
,,	16.	Old Brentwoods	,,
,,	23.	Old Isleworthians	,,

At the time of writing there is every prospect of a very successful season, as we have lost none of the players who composed last year's side, and in addition we have reason to believe that there is considerable talent among the Freshmen. Thus we are able to look forward with confidence to the various cup competitions for which we are entered; these include the Amateur Football Association Cup, the University Cup and the Inter-Hospitals Cup. It will be remembered that we were extremely unfortunate in not winning the last-named in the past season. We shall be surprised therefore if, aided by the enthusiasm which we believe to permeate the "soccer" teams, we do not conclude the season 1928–9 with a record worthy of what is the oldest football club in London.

HOCKEY PROSPECTS.

Having been "out to grass" and grown fat during the summer months, we welcome the beginning of another season.

The results for the 1st XI last year were good; they were beaten by Guy's in the semi-final of the Hospitals Cup, but we hope that they will win it this year. They have an excellent list of fixtures to play; to name a few—Emmanuel College, Christ Church, Oxford, Staff College and St. Lawrence College. W. F. Church, the Cambridge blue, is captain.

The 2nd XI as usual did very well; they reached the final in the Junior Cup, but were beaten by St. Thomas's after a replay; there was no result in the first game after extra time. V. Thorne-Thorne is captain and A. D. Iliff is secretary this year.

H. V. Knight and C. W. B. Woodham are captain and secretary respectively of the 3rd XI.

We extend a cordial welcome to new members and hope they will ginger up the old members.

There will be a trial game on Saturday, October 6th.

Fixtures. 1st XI.

Sat.,	Oct. 6th.	Trial game.	Home.
Wed.,	,, 10th.	R.N. Chatham.	Home.
Sat.,	,, 13th.	Beckenham II.	Home.
Sat.,	,, 20th.	Woolwich.	Away.
Sat.,	,, 27th.	Radlett.	Away.

CORRESPONDENCE.

AN EXCHANGE AND MART COLUMN.

To the Editor, 'St. Bartholomew's Hospital Journal.'

DEAR MR. EDITOR,—Why not add to the utility and at the same time to the revenue of the JOURNAL by starting a small Exchange and Mart column? There are people who want to sell motor bikes, books, wireless-sets, phonographs, etc., who would like to sub-let rooms, find people to take a share in a flat, and dispose of all sorts of things. There are some hundreds of present Bart.'s men reading the JOURNAL, and many thousands of old ones, and many might achieve what they want through the JOURNAL.

What has prompted me to write this is that I have a hunter I want to sell cheap, but anyhow I think the idea worth your consideration.

Yours truly,
KENNETH WALKER.

[We cordially adopt this suggestion, and will duly advertise anything sent in—godmothers, prospective wives, and babies for adoption excepted. To begin with, are there any offers for Mr. Kenneth Walker's hunter?—ED.]

ACKNOWLEDGMENTS.

St. Bartholomew's Hospital League News—British Journal of Nursing—The British Journal of Radiology—The British Journal of Venereal Diseases—St. George's Hospital Gazette—Guy's Hospital Gazette—The Hospital Gazette—Kenya and East Africa Medical Journal—Long Island Medical Journal—The Magazine of the Royal Free Hospital—St. Mary's Hospital Gazette—The Medical Review—The Nursing Times—The Post-Graduate Medical Journal—The Queen's Hospital Medical Magazine—Giornale della Reale Società Italiana d'Igiéne—Revue de Médecin.

REVIEWS.

ST. BARTHOLOMEW'S HOSPITAL REPORTS. Vol. LXI, 1928. (John Murray.) Pp. 260. Price 15s.

This year's *Reports* deal with an even larger list of subjects than usual. There is nothing quite to correspond with the exhaustive discussion of radium and its application to cancer, the result of a concerted attack in several departments of the Hospital. Of the present volume, however, over 60 pages are devoted to respiratory conditions. Prof. Fraser fittingly heads the attack with a synopsis of his well-known recent work on *Dyspnœa*, dealing with definition, ætiology and relation to disease. In pneumothorax and in pneumonia with extensive consolidation there is little arterial anoxæmia because of reduction of circulation through the collapsed lung. The cause of the shallow breathing in the latter condition is often not to be put down to pleural pain, but may be due to a toxic or reflex effect on the respiratory centre, or late in the disease to circulatory failure. A revised H-ion concentration of the blood in diabetes and uræmia, and a circulatory stasis in the respiratory centre in heart failure leading to increased pulmonary ventilation are further postulated.

In Chapter II, Dr. Chandler and Dr. Sparks discuss the "Diagnosis of Bronchiectasis with Special Reference to Lipiodol," with 8 skiagrams, and this is completed by Mr. Roberts's contribution on "Collapse Therapy in the Unilateral Basal Type," with descriptions of 8 cases. In the two succeeding chapters the subject of "Artificial Pneumothorax" is examined from two different aspects, but with (in the main) similar conditions; Dr. Young regards statistics as entirely misleading, and bases his remarks largely on his own clinics—City of London Dispensary held here, and the Brompton Hospital. Dr. Hilton meets the obvious objection by taking as a foundation Rists's enormous series of cases from the Laennec Hospital in Paris, where he himself worked. The results all show that the indications for artificial pneumothorax treatment are becoming increased in number. Both authors regard bilateral incomplete artificial pneumothorax as possible given skilled technical accomplishment. The majority of Dr. Young's paper deals with the conduct of ambulant cases, and a full account is given of the management of refills and of the mode of termination of the pneumothorax.

Mr. Langton Hewer describes "Anæsthesia in Thoracic Operations," discussing the points in favour of nitrous oxide-ether anæsthesia in the different types of operation, the necessity for differential pressure in operations involving extensive opening of one or both pleural cavities, and the switch from open chloroform to endotracheal N_2O oxygen, where there is obstruction to the respiratory passages. He uses the standard Boyle's apparatus with his own modified sight-feed, a sketch of which is given. The disadvantage of ethylene and acetylene are that they cause nausea and vomiting and are apt to be highly explosive.

Mr. Cortlandt MacMahon describes his breathing exercises in the post-operative treatment of empyema with 5 case-histories. He recommends their early use after rib-resection unless the patient is too ill to be troubled.

Then follow two chapters on the Cerebro-spinal Fluid, and one on Head Injuries. Mr. Just discusses the literature of "Cystic Serous Meningitis of the Processus Fossa of Otitic Origin," and describes two of his cases. This condition, though rare, is promptly relieved by incising the dura and lifting back the cerebellum. He is sceptical about the occurrence of the so-called cysts of the sulcus endolymphadines. Dr. Carmichael attaches importance to pressure-readings, cell-counts (including differentials) and the presence of bacteria, whether viable or not. The chloride-content is of value only in cases which have not been operated on for ear disease. The unilateral absence of the Queckenstedt phenomenon is of value in sinus thrombosis. Examination of the fluid will not make a diagnosis between sinus thrombosis or cerebral abscess. A fluid with few cells and low chloride is probably the expression of a poor resistance by the host, especially in the presence of bacteria.

Mr. Paterson Ross's analysis of 7 cases of intra-cranial injury is full of interest, both medical and surgical, and it is only by studying such, either first-hand or in the literature, that any degree of knowledge may be attained, the text-books limiting themselves of necessity to straightforward and advanced examples.

The remainder of the book deals with a miscellaneous collection of subjects: "Treatment of Cancer by Lead," by Mr. Hume, whose arguments have recently become so well known as to require little further comment; "Notes on a Case of Heart-block whose Grade was Decreased by an Inspiratory Increase of Sympathetic Tone," by Dr. Geoffrey Bourne; "An Analysis of 50 Cases of Acute Osteomyelitis," by Mr. J. P. Hosford; "Torsion of the Spermatic Cord," by Mr. Roche; "The Therapeutic Thrombosis of Varicose Veins," by Mr. Payne; A Description of 9 Cases of Femoral Aneurysm," by Mr. Meyrick Thomas; "A Case of Rat-bite Fever," by Mr. E. N. Allott and Mr. T. Joekes.

The book is fittingly prefaced by Sir D'Arcy Power's account of Dr. William Harvey and St. Bartholomew's Hospital.

APPLIED PHYSIOLOGY. By SAMSON WRIGHT, M.D., M.R.C.P. Second edition. (Oxford University Press: Humphrey Milford.) Pp. 510. Price 18s. net.

So much has been added to the first edition of two years ago that space precludes a list or a thorough analysis. The matter is so cleverly condensed that the 100 new pages and 70 illustrations mean a great deal more than might be predicted. It would be quite unfair to quarrel over omissions; one should rather congratulate the author on the extraordinary clearness with which the crowded statements are expressed. One is tempted, however, to ask for more discussion of "chronaxie," in connection with Adrian's work on action currents in sensory nerves; Cramer is dismissed rather summarily in proportion to Cannon in the field of adrenalin secretion, and the influence of the thyroid in heat regulation is omitted. Though a very excellent account of the relation of the hypothalamus to pituitary is given, the debated question of the action of pituitrin and diabetes insipidus is avoided.

Perhaps Dr. Wright's genius lies most in giving a graphic and comprehensive account of a detailed subject in a few words with a cold and impartial balance between the two invariable sides of the question, which makes him invaluable as a physiology coach. A good example occurs in connection with the gall-bladder, where a full description of Lyon's duodenal intubation technique is given in a dozen lines, which include the often overlooked objection that mag. sulph. does not give such a powerful contraction of the gall-bladder as fat.

As Dr. Swale Vincent brings out in his introduction, many generations of students will be grateful for the skillful sifting of enormous numbers of original papers which this author has spared them. This is a book which should be as useful to the M.R.C.P. as for the Primary Fellowship.

INSOMNIA AND DRUG ADDICTION. By P. C. COLLINGWOOD FENWICK. (London: H. K. Lewis & Co., Ltd.) Pp. xii + 46. Price 2s. net.

The author of this small book speaks with the authority of experience, and his conclusions are optimistic.

In the first part of the book the relative values and dangers of various narcotic and euphoric drugs are reviewed. The last part is devoted to a discussion of the dry habit, its formation, clinical aspect and cure.

The chief drugs considered are the barbitone and opium derivatives, cocaine and alcohol.

Clear composition, useful information and practical suggestions combine to make the book very commendable, both to medical men and to others interested in the question of drug addiction.

HANDBOOK ON VENEREAL DISEASES. W. TURNER WARWICK, F.R.C.S. (London: Faber & Gwyer, Ltd.) Pp. 221.

This small book is intended for nurses and others engaged in the routine treatment of venereal diseases. A brief sketch of the historical aspects of the subjects is given, followed by a fuller account of the various voluntary societies' activities and the legislation relating to the subject.

The greater part of the book is devoted to the clinical manifestations and pathology of venereal diseases, and especially the practical details in connection with the various forms of treatment.

The author has in the main remembered he is writing for nurses, but here and there a simplification of the language is to be desired. Surely the account of the technique and theory of the Wassermann reaction might be omitted in a work of this type. On p. 126 "anterior cystoscopy" should be "anterior urethroscopy."

The book is clearly written, and should prove a valuable handbook for nurses engaged in the treatment of venereal diseases.

RECENT BOOKS AND PAPERS BY ST. BARTHOLOMEW'S MEN.

ABRAHAMS, ADOLPHE, O.B.E., M.D., M.R.C.P. "Two Cases of Familial Acholuric Jaundice in Brothers." *Proceedings of the Royal Society of Medicine*, June, 1928.

ALEXANDER, FREDK. WM., L.R.C.P.(Edin.) & L.M., M.R.C.S.(Eng.), D.P.H. "Treatment of Whooping-Cough: Inhalation of Cypress Oil." *Journal of British Society for Study of Inhalation Therapy*, June, 1928.

——— "Writers' Cramp; Scriveners' Palsy; Functional Spasm; Fatigue Neurosis affecting Psychical Activities." *Medical Press and Circular*, August 15th, 1928.

APPLETON, A. B., M.A., M.D., M.R.C.S., L.R.C.P. "The Muscles and Nerves of the Post-Axial Region of the Tetrapod Thigh." Part II. *Journal of Anatomy*, July, 1928.

AUDEN, G. A., M.D., F.R.C.P. "The Gild of Barber Surgeons of the City of York." *Proceedings of the Royal Society of Medicine*, June, 1928.

BATHURST, L. W., M.D. "Treatment of Incontinence of Urine in Women by Electro-Therapeutic Means." *Proceedings of the Royal Society of Medicine*, June, 1928.

BERTWISTLE, A. P., M.B., Ch.B., F.R.C.S.(Edin.). "Antistreptococcal Serum for Insect Bites." *British Medical Journal*, August 25th, 1928.

BOURNE, GEOFFREY, M.D., M.R.C.P. "The Treatment of Rheumatic Carditis." *Lancet*, August 4th, 1928.

BUCHANAN, Sir GEORGE S., C.B., M.D., F.R.C.P. "Public Action in Regard to Cancer." *Lancet*, July 28th, 1928.

CARMICHAEL, E. A., M.B., M.R.C.P.(Lond.), F.R.C.P.(Edin.). *See* Linder and Carmichael.

CHESTER-WILLIAMS, F. E., M.R.C.S. *See* Gosse and Chester-Williams.

CHOPRA, R. N., M.A., M.D.(Cantab.), I.M.S. (and CHANDLER, ASA C., M.Sc., Ph.D.). *Anthelmintics and their Uses in Medical and Veterinary Practice.* London, 1928, Baillière, Tindall & Cox.

——— (and BOSE, J.P., and CHATTERJEE, N. R.). "*Gymnema sylvestre* in Diabetes Mellitus." *Indian Journal of Medical Research*, July, 1928.

——— (and DIKSHIT, B. B., and DAVID, J. C.). "A Comparative Study of the Action of Cinchonidine and Cinchonine on the Heart." *Indian Journal of Medical Research*, July, 1928.

CLARK, A. J., M.C., M.D., F.R.C.P., D.P.H. "The Reaction between Acetyl Chlorine and Muscle Cells," Part II. *Journal of Physiology*, vol. lxiv, No. 2, 1927.

[We regret that the rest of this list must be held over.—ED.]

EXAMINATIONS, ETC.

UNIVERSITY OF LONDON.

Second Examination for Medical Degrees, July, 1928.

Part II.—Barigrasser, S., Baxter, W. S., Beard, A. J. W., Bell, C. M., Bochenek, S., Briggs, G. D. S., Cimmering, S., Cook, A. B., Freeth, J. W. O., Harris, C. H. S., Hiscock, L. A., Roberts, J. C., Smith, D. A., Staunton, H. W. G.

L.M.S.S.A.

The Diploma of the Society has been granted to the following: McDermott, G. L., Wright, H. D. K.

CHANGES OF ADDRESS.

BAILEY, W. H., 14, Route de Malagnou, Geneva.

BATTERHAM, Capt. D. J., R.A.M.C., c/o Glyn Mills & Co., 3, Whitehall Place, S.W.

BEVAN, F. A., Bramley, London Road, Hadleigh, Essex. (Tel. Hadleigh 360.)

HENTSCHEL, C. C., 10, Newcastle House, Northumberland Street, W. 1. (Tel. Ambassador 8752.)

LEONARD, Col. W. H., I.M.S., c/o Messrs. T. Cook & Son, Bombay, India.

MAPLES, E. E., Sports Club, St. James's Square, S.W. 1.

POLLARD, Surg.-Lt. E. B., R.N., c/o The National Provincial Bank, Ltd., 59, West Smithfield, E.C. 1.

TOPHAM, E. J. E., 2, West Avenue, Exeter, Devon. (Tel. Exeter 3536.)

WELLS, A. Q., Barrington Hall, Cambs.

APPOINTMENTS.

BOWER, H. J., M.B., B.Ch.(Cantab.), appointed Honorary Assistant Physician to the Royal South Hants and Southampton Hospital, and Medical Inspector to the Board of Trade, Southampton.

BROADBENT, M. S. R., M.R.C.S., L.R.C.P., appointed Junior House Officer to the Mildmay Mission Hospital.

WILLOUGHBY, H. M., M.R.C.S., L.R.C.P., D.T.M.&H., appointed House Physician to the Hospital for Tropical Diseases, Endsleigh Gardens, W.C. 1. (Re-appointment.)

BIRTHS.

CANE.—On September 7th, 1928, at Reepham, to Marjorie (*née* Perkins), wife of Dr. Maurice H. Cane—a daughter.

COCHRANE.—On September 5th, 1928, at Kalimpong, N. India, to Dr. Robert G. and Mrs. Cochrane—a son.

HARTRIDGE.—On September 6th, 1928, at 17, Orsett Terrace, W. 2, to Prof. and Mrs. Hartridge—a daughter

LEON.—On August 30th, 1928, at 48, Clarence Gate Gardens, to Elizabeth, wife of Kenneth Leon, M.R.C.S.(Eng.)—a daughter.

STONE.—On September 9th, 1928, at 39, Elm Park Gardens, Chelsea, the wife of Gerald William Stone, Cumnor, Dyke Road, Hove—a son.

MARRIAGES.

BARENDT—GIBBONS.—On September 8th, 1928, in London, by the Rev. H. Bailey, Geoffrey Harold, second son of the late Dr. Frank H. Barendt, of Liverpool, to Phyllis, elder daughter of Mr. John Gibbons, of Highgate.

COCHRANE—ASPLIN.—On September 6th, 1928, at the Church of the Holy Cross, Milton, Northants, by the Rev. R. Tadman, M.A., Thomas S. Cochrane, M.B., son of Dr. and Mrs. Cochrane, Orpington, to Gwendolen May, daughter of Mr. and Mrs. Asplin, the Manor House, Milton.

DUNN—JUMP.—On September 19th, 1928, at St. Martin-in-the-Fields, Spencer Graeme Dunn, F.R.C.S., of 16, Adamson Road, N.W. 3, to Eva Isabel, daughter of Mr. and Mrs. Frederick Jump, of Birkenhead.

McLAGGAN—ADAMS.—On September 22nd, 1928, at Hampstead, John Douglas McLaggan, F.R.C.S., son of James McLaggan, of Milnathort, to Elsa Violet, daughter of Mr. and Mrs. W. Adams, Heathfield Road, Croydon.

TOPHAM—HARCOURT.—On September 12th, 1928, at the Parish Church, Clones, Ireland, by the Venerable the Archdeacon of Clogher, Ernest Joseph Eric Topham, M.A., M.B., B.Chir.(Camb.), D.M.R.E., of Exeter and Nottingham, only son of Mr. and Mrs. E. W. Topham, of Nottingham, to Mary Helen Harcourt, B.A., M.B., B.Ch. (Trinity College, Dublin), second daughter of the late Mr. W. G. Harcourt and of Mrs. Harcourt, of Clonkirk, Clones.

DEATHS.

GREEN.—In June, 1928, Samuel Lionel Green, F.R.C.S.(Edin.), M.R.C.S., L.R.C.P., of Hamilton, New Zealand.

KERSWILL.—On August 10th, 1928, suddenly, Harry Kerswill, M.R.C.S., L.R.C.P., of Sackville House, Sandwich, Kent.

LECLEZIO.—On August 16th, 1928, G. J. A. Leclezio, M.R.C.S., L.R.C.P., D.P.H., of Moka, Mauritius.

PRITCHARD.—On August 31st, 1928, at a nursing home in London, after an operation, Owen Pritchard, M.D., LL.D., of 41, Gloucester Square, and 37, Southwick Street, Hyde Park, W. 2, aged 74.

QUICK.—On September 15th, 1928, at Pentreve, Torquay, John Quick, surgeon, aged 84.

WYNDHAM.—On September 7th, 1928, in London, Thomas Lancelot Wyndham, L.R.C.S., L.R.C.P.(Edin.), aged 54.

NOTICE.

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